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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/624,660	07/25/2000	Moshe Rock	10638-037001/952/33	6658

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FISH & RICHARDSON PC
225 FRANKLIN ST
BOSTON, MA 02110

EXAMINER
TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
1771	18

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/624,660	Applicant(s) ROCK ET AL.	
	Examiner Norca L. Torres-Velazquez	Art Unit 1771	

-- The MAILING DATE f this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *19-32* is/are allowed.

6)☒ Claim(s) *1-8 and 10-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Applicant's arguments filed on May 15, 2003 have been fully considered but they are not persuasive.

a. Applicants argue that the Fujiwara reference (secondary reference) does not teach the inclusion of yarn fibers with a refractory compound in the inner, raised, fabric layer of the fabric described by Lumb, and that instead it is directed to a thin stocking.

It is noted that the Lumb reference teaches all the limitations of the independent claim 1 except for *the particles of a refractory compound embedded within the yarn fiber* of the inner fabric layer. The Fujiwara reference teaches the use of particles of refractory compounds embedded within yarn fibers in order to provide the fabrics made from these yarns with heat insulation properties. While the Fujiwara reference is directed to a thin stocking, it provides the teachings and motivation for using refractory particles embedded within yarn fibers. It is the Examiner's position that the Fujiwara reference provides the teachings of refractory materials to raise the thermal effect of a fabric that is positioned close the wearer's body and would be recognized in the art of Lumb.

With regards to the limitation "wherein said inner fabric layer has a surface area enlarged by a raising process for creating air spaces to enhance insulation performance and for reducing contact of the inner fabric layer upon a wearer's skin", it is noted that the LUMB reference teaches that the surface of the material in the first fabric layer, which is the inner layer is raised and uses a conventional process such as napping to produce it. (Refer to Column 1, line 40 and Column 3, lines 30-31).

b. Further, a new rejection has been incorporated herein.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-8 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LUMB et al. (US 5312667) in view of FUJIWARA (Abstract Japanese Patent 09-087901A).

LUMB et al. discloses a composite textile fabric for moving moisture away form the skin. It includes a first fabric layer (inner layer) comprising either a polyester or nylon material which has been rendered hydrophilic and a second fabric layer comprising at least 25% by weight of a moisture absorbent material such as cotton. The first fabric layer and the second fabric layer (outer layer) are formed concurrently by knitting a plaited construction. (Abstract) The reference further teaches that the surface of the material in the first fabric layer is raised. (Column 1, line 40). LUMB et al. also teaches that the composite textile fabric is used in garments, including sweatshirts, sweat pants, underwear, bathrobes, and various types of exercise clothing. (Column 1, lines 50-53)

The composite fabric may be constructed as a warp or weft knit, such as a two-end fleece, three-end fleece, terry with regular plaiting, double terry, double needle raschel and tricot. (Column 2, lines 67-68 through Column 3, lines 1-2)

LUMB et al. further teach that the surface of the first fabric layer is raised by napping. The polyester or nylon layer is either round or modified cross-section, 0.3 to 6.0 denier. (Column 3, lines 30-35). The reference discloses that the significance of the plaited fabric

construction is that this feature helps to create a substantial moisture concentration gradient between the surface of the raised polyester or nylon layer (which quickly transports water from the skin) and the cotton layer (which absorbs the water from the first layer and from which the water is evaporated. (Column 1, lines 62-68)

However, the reference does not disclose the use of particles of a refractory compound embedded within the yarn fibers of the inner fabric layer.

FUJIWARA et al. discloses a stocking constituted by a synthetic fiber containing a substance having a heat storing and heat insulating effects by absorbing the visible ray of the sunlight and generating heat through an energy conversion, having the improved heat insulating effect, and excellent in fashionable property. The reference further teaches that the stockings are constituted by a synthetic fiber such as nylon, polyester and an acrylic fiber containing a substance such as zirconium carbide. The reference also teaches that the fiber of their invention also has the effect of reflecting the far infrared rays generated from a human body, and it carries out thermal conversion and not only keeps it warm, but it can acquire a double heat insulation effect. (Refer to [0008]).

Since both LUMB et al. and FUJIWARA et al. are from the same field of endeavor, knitted fabrics with insulating properties, the purpose disclosed by FUJIWARA et al. would have been recognized in the pertinent art of LUMB et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the composite textile fabric and provide it with particles of zirconium carbide with the motivation of providing the fabric with improved heat insulation effect as disclosed by FUJIWARA et al. (Abstract)

4. Claims 1-8 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LUMB et al. (US 5312667) in view of TOSHIO et al. (JP 02-182968 Abstract).

LUMB et al. discloses a composite textile fabric for moving moisture away form the skin. It includes a first fabric layer (inner layer) comprising either a polyester or nylon material which has been rendered hydrophilic and a second fabric layer comprising at least 25% by weight of a moisture absorbent material such as cotton. The first fabric layer and the second fabric layer (outer layer) are formed concurrently by knitting a plaited construction. (Abstract) The reference further teaches that the surface of the material in the first fabric layer is raised. (Column 1, line 40). LUMB et al. also teaches that the composite textile fabric is used in garments, including sweatshirts, sweat pants, underwear, bathrobes, and various types of exercise clothing. (Column 1, lines 50-53)

The composite fabric may be constructed as a warp or weft knit, such as a two-end fleece, three-end fleece, terry with regular plaiting, double terry, double needle raschel and tricot. (Column 2, lines 67-68 through Column 3, lines 1-2)

LUMB et al. further teach that the surface of the first fabric layer is raised by napping. The polyester or nylon layer is either round or modified cross-section, 0.3 to 6.0 denier. (Column 3, lines 30-35). The reference discloses that the significance of the plaited fabric construction is that this feature helps to create a substantial moisture concentration gradient between the surface of the raised polyester or nylon layer (which quickly transports water from the skin) and the cotton layer (which absorbs the water from the first layer and from which the water is evaporated. (Column 1, lines 62-68)

However, the reference does not disclose the use of particles of a refractory compound embedded within the yarn fibers of the inner fabric layer.

TOSHIO et al. teaches a knit fabric having excellent heat-insulation and comfortableness by sufficiently opening the fiber tip parts of a pile fabric and uniformly and firmly attaching a binder containing far infrared radiation inorganic particles. (Abstract)

Since both LUMB et al. and TOSHIO et al. are directed to knitted fabrics with insulating properties, the purpose disclosed by TOSHIO et al. would have been recognized in the pertinent art of LUMB et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the composite textile fabric and provide it with particles such as cobalt oxide, iron oxide, zirconium oxide or manganese oxide with the motivation of providing the fabric with improved heat insulation effect as disclosed by TOSHIO et al. (Abstract)

Allowable Subject Matter

5. Claims 19-32 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach a composite textile fabric of the present invention that particularly comprises an inner fabric layer that has been treated by metal vapor deposition that further allows for the passage of liquid there through.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 11-279830 Abstract

JP 03-199448 Abstract

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 703-306-5714. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

NLT
July 23, 2003

ELIZABETH M. COLE
PRIMARY EXAMINER